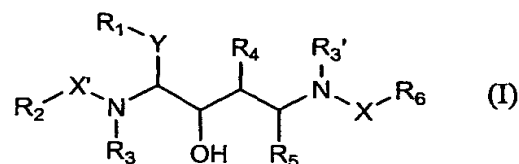


What is claimed is:

1. A compound of formula I:



5

or a pharmaceutically acceptable salt thereof, wherein  
R<sub>2</sub> is hydrogen, or

R<sub>2</sub> is (C<sub>3</sub>-C<sub>7</sub> cycloalkyl)<sub>0-1</sub>(C<sub>1</sub>-C<sub>6</sub> alkyl)-, (C<sub>3</sub>-C<sub>7</sub> cycloalkyl)<sub>0-1</sub>(C<sub>2</sub>-C<sub>6</sub> alkenyl)-, (C<sub>3</sub>-C<sub>7</sub> cycloalkyl)<sub>0-1</sub>(C<sub>2</sub>-C<sub>6</sub> alkynyl)- or  
10 (C<sub>3</sub>-C<sub>7</sub> cycloalkyl)-, wherein each of said groups is optionally substituted with 1, 2, or 3 R<sub>z</sub> groups, wherein 1 or 2 methylene groups within said (C<sub>3</sub>-C<sub>7</sub> cycloalkyl)<sub>0-1</sub>(C<sub>1</sub>-C<sub>6</sub> alkyl)-, (C<sub>3</sub>-C<sub>7</sub> cycloalkyl)<sub>0-1</sub>(C<sub>2</sub>-C<sub>6</sub> alkenyl)-, (C<sub>3</sub>-C<sub>7</sub> cycloalkyl)<sub>0-1</sub>(C<sub>2</sub>-C<sub>6</sub> alkynyl)- or (C<sub>3</sub>-C<sub>7</sub> cycloalkyl)-  
15 groups are optionally replaced with -(C=O)-;

R<sub>z</sub> at each occurrence is independently halogen (in one aspect, F or Cl), -OH, -SH, -CN, -CF<sub>3</sub>, -OCF<sub>3</sub>, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>3</sub>-C<sub>7</sub> cycloalkyl, C<sub>3</sub>-C<sub>7</sub> cycloalkoxy or -NR<sub>100</sub>R<sub>101</sub>;

20 R<sub>100</sub> and R<sub>101</sub> at each occurrence are independently H, C<sub>1</sub>-C<sub>6</sub> alkyl, phenyl, CO(C<sub>1</sub>-C<sub>6</sub> alkyl) or SO<sub>2</sub>C<sub>1</sub>-C<sub>6</sub> alkyl;

X' is -(C=O)- or -(SO<sub>2</sub>)-;

Y is absent or is -(CH<sub>2</sub>)<sub>n</sub>-, where n = 1, 2, or 3 and where up  
25 to 3 hydrogens of -(CH<sub>2</sub>)<sub>n</sub>- are optionally replaced with one, two or three substituents selected from

C<sub>1</sub>-C<sub>3</sub> alkyl, -F, -Cl, -Br, -I, -OH, -SH, -C≡N, -CF<sub>3</sub>, C<sub>1</sub>-C<sub>3</sub> alkoxy, -COOH, -COO(C<sub>1</sub>-C<sub>6</sub> alkyl), -N(COR)R', -CONRR' or -NRR' where R and R' independently are -H  
30 or C<sub>1</sub>-C<sub>10</sub> alkyl;

R<sub>1</sub> is H, -(CH<sub>2</sub>)<sub>1-2</sub>-S(O)<sub>0-2</sub>-(C<sub>1</sub>-C<sub>6</sub> alkyl), or

C<sub>1</sub>-C<sub>10</sub> alkyl optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, =O, -SH, -C≡N, -CF<sub>3</sub>, -COOR, C<sub>1</sub>-C<sub>3</sub> alkyl, -C<sub>1</sub>-C<sub>3</sub> alkoxy, amino, monoalkylamino, dialkylamino, -CONRR', -N(R)C(O)R'-, -OC(=O)-amino, -OC(=O)-monoalkylamino, and -OC(=O)-dialkylamino or

C<sub>2</sub>-C<sub>6</sub> alkenyl or C<sub>2</sub>-C<sub>6</sub> alkynyl, each of which is optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, -SH, -C≡N, -CF<sub>3</sub>, C<sub>1</sub>-C<sub>3</sub> alkoxy, amino, and mono- or dialkylamino, or

-C<sub>1</sub>-C<sub>6</sub> alkyl-(C<sub>3</sub>-C<sub>7</sub>)cycloalkyl where cycloalkyl can be optionally substituted with C<sub>1</sub>-C<sub>3</sub> alkyl, halogen, -OH, -SH, -C≡N, -CF<sub>3</sub>, C<sub>1</sub>-C<sub>6</sub> alkoxy, -O-phenyl, -CO<sub>2</sub>H, -CO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub> alkyl), or -NRR', or

aryl, heteroaryl, heterocyclyl, -C<sub>1</sub>-C<sub>6</sub> alkyl-aryl, -C<sub>1</sub>-C<sub>6</sub> alkyl-heteroaryl, or -C<sub>1</sub>-C<sub>6</sub> alkyl-heterocyclyl, where the ring portions of each are optionally substituted with 1, 2, 3, or 4 of

halogen, -OH, -SH, -C≡N, -NRR', -CO<sub>2</sub>R, -N(R)COR', or -N(R)SO<sub>2</sub>R', -C(=O)-(C<sub>1</sub>-C<sub>4</sub>) alkyl, -SO<sub>2</sub>-amino, -SO<sub>2</sub>-mono or dialkylamino, -C(=O)-amino, -C(=O)-mono or dialkylamino, -SO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub>) alkyl, or -C<sub>1</sub>-C<sub>6</sub> alkoxy optionally substituted with 1, 2, or 3 independently selected halogens, or

C<sub>3</sub>-C<sub>7</sub> cycloalkyl optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, -SH, -C≡N, -CF<sub>3</sub>, C<sub>1</sub>-C<sub>3</sub> alkoxy, amino, -C<sub>1</sub>-C<sub>6</sub> alkyl and mono- or dialkylamino, or

C<sub>1</sub>-C<sub>10</sub> alkyl optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, -SH, -C≡N, -CF<sub>3</sub>, -C<sub>1</sub>-C<sub>3</sub> alkoxy, amino, mono- or dialkylamino and -C<sub>1</sub>-C<sub>3</sub> alkyl, or

C<sub>2</sub>-C<sub>10</sub> alkenyl or C<sub>2</sub>-C<sub>10</sub> alkynyl each of which is optionally substituted with 1, 2, or 3 groups

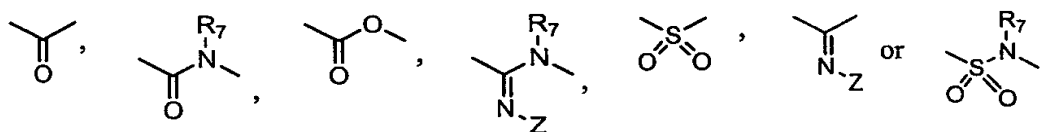
independently selected from halogen, -OH, -SH, -C≡N, -CF<sub>3</sub>, C<sub>1</sub>-C<sub>3</sub> alkoxy, amino, C<sub>1</sub>-C<sub>6</sub> alkyl and mono- or dialkylamino;

R and R' are independently -H or C<sub>1</sub>-C<sub>10</sub> alkyl;

5 R<sub>3</sub> and R<sub>3</sub>' at each occurrence are independently H, C<sub>1</sub>-C<sub>6</sub> alkyl, -CO<sub>2</sub>-C<sub>1</sub>-C<sub>6</sub> alkyl, or -CO-O-(CH<sub>2</sub>)<sub>n</sub>-phenyl where n is 0, 1 or 2 and phenyl is optionally substituted with C<sub>1</sub>-C<sub>6</sub> alkyl;

10 R<sub>4</sub> and R<sub>5</sub> are independently H or C<sub>1</sub>-C<sub>6</sub> alkyl optionally substituted with one, two or three substituents independently selected from C<sub>1</sub>-C<sub>3</sub> alkyl, halogen, -OH, -SH, -C≡N, -CF<sub>3</sub>, C<sub>1</sub>-C<sub>3</sub> alkoxy, and -NRR';

X is absent or is:



15 R<sub>7</sub> is H, C<sub>1</sub>-C<sub>6</sub> alkyl, -CO-O-C<sub>1</sub>-C<sub>6</sub> alkyl, or -CO-O-(CH<sub>2</sub>)<sub>n</sub>-phenyl where n is 0, 1 or 2 and phenyl is optionally substituted with C<sub>1</sub>-C<sub>6</sub> alkyl, and wherein each C<sub>1</sub>-C<sub>6</sub> alkyl is optionally independently substituted with one, two or three substituents independently  
20 selected from C<sub>1</sub>-C<sub>3</sub> alkyl, halogen, -OH, -SH, -C≡N, -CF<sub>3</sub>, C<sub>1</sub>-C<sub>6</sub> alkoxy, -NR<sub>102</sub>R'<sub>102</sub>,

Z is H, C<sub>1</sub>-C<sub>6</sub> alkyl, CN, -O-C<sub>1</sub>-C<sub>6</sub> alkyl, or NO<sub>2</sub>;

R<sub>102</sub> and R'<sub>102</sub> independently are hydrogen, or

25 C<sub>1</sub>-C<sub>10</sub> alkyl optionally substituted with 1, 2, or 3 groups that are independently halogen, or aryl, wherein aryl is optionally with 1 or 2 R<sub>125</sub> groups;

R<sub>125</sub> at each occurrence is independently halogen, amino, mono- or dialkylamino, -OH, -C≡N, -SO<sub>2</sub>-NH<sub>2</sub>, -SO<sub>2</sub>-NH-C<sub>1</sub>-C<sub>6</sub> alkyl, -SO<sub>2</sub>-N(C<sub>1</sub>-C<sub>6</sub> alkyl)<sub>2</sub>, -SO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub> alkyl), -CO-NH<sub>2</sub>, -CO-NH-  
30 C<sub>1</sub>-C<sub>6</sub> alkyl, or -CO-N(C<sub>1</sub>-C<sub>6</sub> alkyl)<sub>2</sub>, or

C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl or C<sub>2</sub>-C<sub>6</sub> alkynyl, each of which is optionally substituted with 1, 2, or 3 groups that are independently selected from C<sub>1</sub>-C<sub>3</sub> alkyl, halogen, -OH, -SH, -C≡N, -CF<sub>3</sub>, C<sub>1</sub>-C<sub>3</sub> alkoxy, amino, and mono- and dialkylamino, or

C<sub>1</sub>-C<sub>6</sub> alkoxy optionally substituted with one, two or three of halogen;

R<sub>6</sub> is - (CR<sub>245</sub>R<sub>250</sub>)<sub>0-4</sub>-aryl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>0-4</sub>-heteroaryl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>0-4</sub>-heterocyclyl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>0-4</sub>-aryl-heteroaryl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>0-4</sub>-aryl-heterocyclyl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>0-4</sub>-aryl-aryl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>0-4</sub>-heteroaryl-aryl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>0-4</sub>-heteroaryl-heterocyclyl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>0-4</sub>-heteroaryl-heteroaryl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>0-4</sub>-heterocyclyl-heteroaryl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>0-4</sub>-heterocyclyl-heterocyclyl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>0-4</sub>-heterocyclyl-aryl, - [C(R<sub>255</sub>)(R<sub>260</sub>)]<sub>1-3</sub>-CO-N-(R<sub>255</sub>)<sub>2</sub>, - CH(aryl)<sub>2</sub>, - CH(heteroaryl)<sub>2</sub>, - CH(heterocyclyl)<sub>2</sub>, - CH(aryl)(heteroaryl), - (CH<sub>2</sub>)<sub>0-1</sub>-CH((CH<sub>2</sub>)<sub>0-6</sub>-OH) - (CH<sub>2</sub>)<sub>0-1</sub>-aryl, - (CH<sub>2</sub>)<sub>0-1</sub>-CH((CH<sub>2</sub>)<sub>0-6</sub>-OH) - (CH<sub>2</sub>)<sub>0-1</sub>-heteroaryl, - CH(-aryl or -heteroaryl)-CO-O(C<sub>1</sub>-C<sub>4</sub> alkyl), - CH(CH<sub>2</sub>-OH)-CH(OH)-phenyl-NO<sub>2</sub>, - (C<sub>1</sub>-C<sub>6</sub> alkyl)-O-(C<sub>1</sub>-C<sub>6</sub> alkyl)-OH; - (C<sub>1</sub>-C<sub>6</sub> alkyl)-O-(C<sub>1</sub>-C<sub>6</sub> alkenyl); - (C<sub>1</sub>-C<sub>6</sub> alkyl)-O-(C<sub>1</sub>-C<sub>6</sub> alkyl)-O-(C<sub>1</sub>-C<sub>6</sub> alkyl); - (C<sub>1</sub>-C<sub>6</sub> alkyl)-O-(C<sub>0</sub>-C<sub>6</sub> alkyl)-aryl; - (C<sub>1</sub>-C<sub>6</sub> alkyl)-O-(C<sub>0</sub>-C<sub>6</sub> alkyl)-cycloalkyl; - CH<sub>2</sub>-NH-CH<sub>2</sub>-CH(-O-CH<sub>2</sub>-CH<sub>3</sub>)<sub>2</sub>, - (CH<sub>2</sub>)<sub>0-6</sub>-C(=NR<sub>235</sub>)(NR<sub>235</sub>R<sub>240</sub>), - (C<sub>2</sub>-C<sub>6</sub> alkenyl)-heteroaryl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>1-4</sub>-N(R<sub>235</sub>)-C(=O)-O-(C<sub>1</sub>-C<sub>3</sub> alkyl)-aryl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>1-4</sub>-N(R<sub>235</sub>)-C(=O)-(C<sub>0</sub>-C<sub>3</sub> alkyl)-aryl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>1-4</sub>-N(R<sub>235</sub>)-C(=O)-(C<sub>0</sub>-C<sub>3</sub> alkyl)-heteroaryl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>1-4</sub>-C(=O)-aryl, - (CR<sub>245</sub>R<sub>250</sub>)<sub>1-4</sub>-C(=O)-heteroaryl, or

C<sub>1</sub>-C<sub>10</sub> alkyl optionally substituted with 1, 2, or 3 groups independently selected from the group consisting of R<sub>205</sub>, cyclopentenyl, -OC=ONR<sub>235</sub>R<sub>240</sub>, -S(=O)<sub>0-2</sub>(C<sub>1</sub>-C<sub>6</sub> alkyl), -SH, -NR<sub>235</sub>C=ONR<sub>235</sub>R<sub>240</sub>, -C=ONR<sub>235</sub>R<sub>240</sub>, -NR<sub>235</sub>-

$C(=O)-O-R_{205}$ , and  $-S(=O)_2NR_{235}R_{240}$ ,  $-NR_{235}C(=O)-(C_1-C_6$   
 alkyl),  $=O$ , or  
 5  $-(CH_2)_{0-3}-(C_3-C_8)$  cycloalkyl wherein the cycloalkyl is  
 optionally substituted with 1, 2, or 3 groups  
 independently selected from the group consisting of  
 $R_{205}$ ,  $-CO_2H$ ,  $-CO_2-(C_1-C_4$  alkyl),  $-CO-NH_2$ ,  $-CO-NH(C_1-$   
 $C_6$  alkyl) and  $-CO-N-(C_1-C_6$  alkyl)( $C_1-C_6$  alkyl), or  
 cyclopentyl, cyclohexyl, or cycloheptyl ring fused to  
 10 aryl, heteroaryl, or heterocyclyl wherein one, two  
 or three carbons of the cyclopentyl, cyclohexyl, or  
 cycloheptyl is optionally replaced with a heteroatom  
 independently selected from  $NH$ ,  $NR_{215}$ ,  $O$ , and  $S(=O)_{0-2}$ ,  
 and wherein the cyclopentyl, cyclohexyl, or  
 cycloheptyl group is optionally substituted with one  
 15 or two groups that are independently  $R_{205}$ ,  $=O$ ,  $-CO-$   
 $NR_{235}R_{240}$ , or  $-SO_2-(C_1-C_4$  alkyl), or  
 $C_2-C_{10}$  alkenyl or  $C_2-C_{10}$  alkynyl, each of which is  
 optionally substituted with 1, 2, or 3 independently  
 selected  $R_{205}$  groups, wherein  
 20 each aryl and heteroaryl is optionally substituted with  
 1, 2, or 3  $R_{200}$ , and wherein each heterocyclyl is  
 optionally substituted with 1, 2, 3, or 4  
 independently selected  $R_{210}$ , and each cycloalkyl is  
 optionally substituted with 1 or 2  $R_{205}$  groups;  
 25  $R_{200}$  at each occurrence is independently selected from  $-OH$ ,  
 $-NO_2$ , halogen,  $-CF_3$ ,  $-CO_2H$ ,  $C\equiv N$ ,  $-(CH_2)_{0-4}-CO-NR_{220}R_{225}$ ,  
 $-(CH_2)_{0-4}-CO-(C_1-C_{12}$  alkyl),  $-(CH_2)_{0-4}-CO-(C_2-C_{12}$  alkenyl),  
 $-(CH_2)_{0-4}-CO-(C_2-C_{12}$  alkynyl),  $-(CH_2)_{0-4}-CO-(C_3-C_7$   
 cycloalkyl),  $-(CH_2)_{0-4}-CO-aryl$ ,  $-(CH_2)_{0-4}-CO-heteroaryl$ ,  
 30  $-(CH_2)_{0-4}-CO-heterocyclyl$ ,  $-(CH_2)_{0-4}-CO-O-R_{215}$ ,  $-(CH_2)_{0-4}-SO_2-$   
 $NR_{220}R_{225}$ ,  $-(CH_2)_{0-4}-SO-(C_1-C_8$  alkyl),  $-(CH_2)_{0-4}-SO_2-(C_1-C_{12}$   
 alkyl),  $-(CH_2)_{0-4}-SO_2-(C_3-C_7$  cycloalkyl),  $-(CH_2)_{0-4}-N(H$  or  
 $R_{215})-CO-O-R_{215}$ ,  $-(CH_2)_{0-4}-N(H$  or  $R_{215})-CO-N(R_{215})_2$ ,  $-(CH_2)_{0-4}-$   
 $N-CS-N(R_{215})_2$ ,  $-(CH_2)_{0-4}-N(-H$  or  $R_{215})-CO-R_{220}$ ,  $-(CH_2)_{0-4}-$   
 35  $NR_{220}R_{225}$ ,  $-(CH_2)_{0-4}-O-CO-(C_1-C_6$  alkyl),  $-(CH_2)_{0-4}-O-P(O)-$

$(OR_{240})_2$ ,  $-(CH_2)_{0-4}-O-CO-N(R_{215})_2$ ,  $-(CH_2)_{0-4}-O-CS-N(R_{215})_2$ ,  $-(CH_2)_{0-4}-O-(R_{215})$ ,  $-(CH_2)_{0-4}-O-(R_{215})-COOH$ ,  $-(CH_2)_{0-4}-S-(R_{215})$ ,  
 $-(CH_2)_{0-4}-O-(C_1-C_6)$  alkyl optionally substituted with 1, 2, 3, or 5 -F,  $C_3-C_7$  cycloalkyl,  $-(CH_2)_{0-4}-N(H \text{ or } R_{215})-SO_2-R_{220}$ ,  
5  $-(CH_2)_{0-4}-C_3-C_7$  cycloalkyl,  
 $C_1-C_{10}$  alkyl optionally substituted with 1, 2, or 3 independently selected  $R_{205}$  groups,  
 $C_2-C_{10}$  alkenyl and  $C_2-C_{10}$  alkynyl, each of which is optionally substituted with 1 or 2 independently  
10 selected  $R_{205}$  groups, wherein  
the aryl and heteroaryl groups at each occurrence are optionally substituted with 1, 2, or 3 groups that are independently  $R_{205}$ ,  $R_{210}$ , or  
 $C_1-C_6$  alkyl substituted with 1, 2, or 3 groups that  
15 are independently  $R_{205}$  or  $R_{210}$ , and wherein  
the heterocyclyl group at each occurrence is optionally substituted with 1, 2, or 3 groups that are independently  $R_{210}$ ;  
 $R_{205}$  at each occurrence is independently selected from  $C_1-C_6$   
20 alkyl, halogen, -OH, -COOH, -O-phenyl, -SH, -S- $C_1-C_6$  alkyl, -C≡N, -CF<sub>3</sub>,  $C_1-C_6$  alkoxy, NH<sub>2</sub>, NH( $C_1-C_6$  alkyl) or N-( $C_1-C_6$  alkyl)( $C_1-C_6$  alkyl);  
 $R_{210}$  at each occurrence is independently selected from halogen,  
 $C_1-C_6$  alkoxy,  $C_1-C_6$  haloalkoxy, -NR<sub>220</sub>R<sub>225</sub>, OH, C≡N, -CO-( $C_1-C_4$  alkyl), -SO<sub>2</sub>-NR<sub>235</sub>R<sub>240</sub>, -CO-NR<sub>235</sub>R<sub>240</sub>, -C(=O)-(C<sub>1</sub>-C<sub>6</sub> alkyl)-  
25 -NR<sub>235</sub>-C(=O)-O-R<sub>205</sub>, -C(=O)-(C<sub>1</sub>-C<sub>4</sub> alkyl)-OH, -C(=O)-(C<sub>1</sub>-C<sub>6</sub> alkyl)-NR<sub>235</sub>R<sub>240</sub>, -C(=O)-(C<sub>1</sub>-C<sub>6</sub> alkyl)-imidazolyl, -SO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub> alkyl), -CO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub> alkyl), =O, or  
 $C_1-C_6$  alkyl,  $C_2-C_6$  alkenyl,  $C_2-C_6$  alkynyl or  $C_3-C_7$   
30 cycloalkyl, each of which is optionally substituted with 1, 2, or 3  $R_{205}$  groups;  
 $R_{215}$  at each occurrence is independently selected from  $C_1-C_6$  alkyl,  $-(CH_2)_{0-2}-(aryl)$ ,  $C_2-C_6$  alkenyl,  $C_2-C_6$  alkynyl,  $C_3-C_7$  cycloalkyl, and  $-(CH_2)_{0-2}-(heteroaryl)$ ,  $-(CH_2)_{0-2}-(heterocyclyl)$ , wherein  
35

the aryl group at each occurrence is optionally substituted with 1, 2, or 3 groups that are independently  $R_{205}$  or  $R_{210}$ , and wherein the heterocyclyl and heteroaryl groups at each occurrence are optionally substituted with 1, 2, or 3 independently selected  $R_{210}$ ;

$R_{220}$  and  $R_{225}$  at each occurrence are independently selected from -H, - $C_3$ - $C_7$  cycloalkyl, -( $C_1$ - $C_2$  alkyl)-( $C_3$ - $C_7$  cycloalkyl), -( $C_1$ - $C_6$  alkyl)-O-( $C_1$ - $C_3$  alkyl), - $C_2$ - $C_6$  alkenyl, - $C_2$ - $C_6$  alkynyl, - $C_1$ - $C_6$  alkyl chain with one double bond and one triple bond, -aryl, -heteroaryl, and -heterocyclyl, and - $C_1$ - $C_{10}$  alkyl optionally substituted with -OH, - $NH_2$  or halogen, wherein the aryl, heterocyclyl and heteroaryl groups at each occurrence are optionally substituted with 1, 2, or 3 independently selected  $R_{270}$  groups

$R_{235}$  and  $R_{240}$  at each occurrence are independently H, or  $C_1$ - $C_6$  alkyl;

$R_{245}$  and  $R_{250}$  at each occurrence are independently selected from -H, halogen, - $CF_3$ , -OH, - $NH_2$ , - $NR_{235}$ -C(=O)-O- $R_{205}$ ,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkylaryl,  $C_1$ - $C_4$  alkylheteroaryl,  $C_1$ - $C_4$  hydroxyalkyl,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  haloalkoxy, -( $CH_2$ ) $_{0-4}$ - $C_3$ - $C_7$  cycloalkyl,  $C_2$ - $C_6$  alkenyl,  $C_2$ - $C_6$  alkynyl, and phenyl; or  $R_{245}$  and  $R_{250}$  are taken together with the carbon to which they are attached to form a carbocycle of 3, 4, 5, 6, or 7 carbon atoms, where one carbon atom is optionally replaced by a heteroatom selected from -O-, -S-, - $SO_2$ -, and - $NR_{220}$ -;

$R_{255}$  and  $R_{260}$  at each occurrence are independently selected from -H, -( $CH_2$ ) $_{1-2}$ -S(O) $_{0-2}$ -( $C_1$ - $C_6$  alkyl), -( $C_1$ - $C_4$  alkyl)-aryl, -( $C_1$ - $C_4$  alkyl)-heteroaryl, -( $C_1$ - $C_4$  alkyl)-heterocyclyl, -aryl, -heteroaryl, -heterocyclyl, -( $CH_2$ ) $_{1-4}$ - $R_{265}$ -( $CH_2$ ) $_{0-4}$ -aryl, -( $CH_2$ ) $_{1-4}$ - $R_{265}$ -( $CH_2$ ) $_{0-4}$ -heteroaryl, -( $CH_2$ ) $_{1-4}$ - $R_{265}$ -( $CH_2$ ) $_{0-4}$ -heterocyclyl, and

C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl and -(CH<sub>2</sub>)<sub>0-4</sub>-C<sub>3</sub>-C<sub>7</sub> cycloalkyl, each of which is optionally substituted with 1, 2, or 3 groups independently selected from R<sub>205</sub>, -COOH, -COO(C<sub>1</sub>-C<sub>4</sub> alkyl), -CO-NH<sub>2</sub>, -CO-NH(C<sub>1</sub>-C<sub>6</sub> alkyl), -CO-N-(C<sub>1</sub>-C<sub>6</sub> alkyl)(C<sub>1</sub>-C<sub>6</sub> alkyl), wherein  
 5 each aryl or phenyl is optionally substituted with 1, 2, or 3 groups that are independently R<sub>205</sub>, R<sub>210</sub>, or C<sub>1</sub>-C<sub>6</sub> alkyl substituted with 1, 2, or 3 groups that are independently R<sub>205</sub> or R<sub>210</sub>, and wherein  
 10 each heterocyclyl is optionally substituted with 1, 2, 3, or 4 R<sub>210</sub>;

R<sub>265</sub> at each occurrence is independently -O-, -S- or -N(C<sub>1</sub>-C<sub>6</sub> alkyl)-; and

R<sub>270</sub> at each occurrence is independently R<sub>205</sub>, halogen C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>1</sub>-C<sub>6</sub> haloalkoxy, NR<sub>235</sub>R<sub>240</sub>, -OH, -C≡N, -CO-(C<sub>1</sub>-C<sub>4</sub> alkyl), -SO<sub>2</sub>-NR<sub>235</sub>R<sub>240</sub>, -CO-NR<sub>235</sub>R<sub>240</sub>, -SO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub> alkyl), =O,  
 15 or

C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl or -(CH<sub>2</sub>)<sub>0-4</sub>-C<sub>3</sub>-C<sub>7</sub> cycloalkyl, each of which is optionally substituted with 1, 2, or 3 R<sub>205</sub> groups.  
 20

2. A compound according to claim 1 wherein  
 wherein X is



3. A compound according to claim 1 wherein

25 R<sub>1</sub> and Y together form aryl, heteroaryl, heterocyclyl, -C<sub>1</sub>-C<sub>6</sub> alkyl-aryl, -C<sub>1</sub>-C<sub>6</sub> alkyl-heteroaryl, or -C<sub>1</sub>-C<sub>6</sub> alkyl-heterocyclyl, where the ring portions of each are optionally substituted with 1, 2, 3, or 4 groups independently selected from halogen, -OH, -SH, -C≡N,  
 30 -NO<sub>2</sub>, -NRR', -CO<sub>2</sub>R, -N(R)COR', or -N(R)SO<sub>2</sub>R', -C(=O)-(C<sub>1</sub>-C<sub>4</sub>) alkyl, -SO<sub>2</sub>-amino, -SO<sub>2</sub>-mono or dialkylamino, -C(=O)-amino, -C(=O)-mono or dialkylamino, -SO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub>) alkyl, or

C<sub>1</sub>-C<sub>6</sub> alkoxy optionally substituted with 1, 2, or 3 groups which are independently selected from halogen, or

5 C<sub>3</sub>-C<sub>7</sub> cycloalkyl optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, -SH, -C≡N, -CF<sub>3</sub>, C<sub>1</sub>-C<sub>3</sub> alkoxy, amino, -C<sub>1</sub>-C<sub>6</sub> alkyl and mono- or dialkylamino, or

10 C<sub>1</sub>-C<sub>10</sub> alkyl optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, -SH, -C≡N, -CF<sub>3</sub>, -C<sub>1</sub>-C<sub>3</sub> alkoxy, amino, mono- or dialkylamino and -C<sub>1</sub>-C<sub>3</sub> alkyl, or

15 C<sub>2</sub>-C<sub>10</sub> alkenyl or C<sub>2</sub>-C<sub>10</sub> alkynyl each of which is optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, -SH, -C≡N, -CF<sub>3</sub>, C<sub>1</sub>-C<sub>3</sub> alkoxy, amino, C<sub>1</sub>-C<sub>6</sub> alkyl and mono- or dialkylamino; and the heterocyclyl group is optionally further substituted with oxo.

20 4. A compound according to claim 1 wherein R<sub>1</sub> and Y together form -(CH<sub>2</sub>)<sub>n</sub>-aryl, wherein n is 1, 2 or 3 and wherein 1, 2, or 3 hydrogens of -(CH<sub>2</sub>)<sub>n</sub>- are replaced with one, two or three groups independently selected from F, Cl, Br, I, OH, C<sub>1</sub>-C<sub>3</sub> alkoxy, -N(COR)R', and -NRR'.  
25 More preferably, n is 1.

5. A compound according to claim 1 wherein X' is -(C=O)-, and  
30 R<sub>2</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl optionally substituted with 1 or 2 groups independently selected from halogen (in one aspect, F or Cl), -OH, -SH, -CN, -CF<sub>3</sub>, -OCF<sub>3</sub>, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>3</sub>-C<sub>7</sub> cycloalkyl, C<sub>3</sub>-C<sub>7</sub> cycloalkoxy or -NR<sub>100</sub>R<sub>101</sub>.

6. A compound according to claim 1 wherein

$R_6$  is  $-(CR_{245}R_{250})_{1-4}$ -aryl,  $-(CR_{245}R_{250})_{1-4}$ -heteroaryl,  $-(CR_{245}R_{250})_{1-4}$ -heterocyclyl,  $-(C_1-C_6 \text{ alkyl})-O-(C_1-C_3 \text{ alkyl})$ -aryl;  $-(C_2-C_6 \text{ alkenyl})$ -heteroaryl; or

$C_1-C_{10}$  alkyl optionally substituted with 1, 2, or 3 groups independently selected from the group consisting of halogen, -OH, -O-phenyl,  $-C_1-C_6$  alkoxy, and  $-NR_{235}-C(=O)-O-R_{205}$ , or

$-(CH_2)_{1-3}-(C_3-C_7)$  cycloalkyl wherein the cycloalkyl is optionally substituted with 1, 2, or 3 groups independently selected from the group consisting of  $C_1-C_6$  alkyl, halogen, -OH,  $-C\equiv N$ ,  $-CF_3$ ,  $C_1-C_6$  alkoxy,  $NH_2$ , or

$C_2-C_{10}$  alkenyl or  $C_2-C_{10}$  alkynyl, each of which is optionally substituted with 1, 2, or 3 independently selected  $R_{205}$  groups, wherein

each aryl and heteroaryl is optionally substituted with 1, 2, or 3 of OH,  $-NO_2$ , halogen,  $-CF_3$ ,  $-CO_2H$ ,  $C\equiv N$ , or  $C_1-C_6$  alkoxy, and wherein each heterocyclyl is optionally substituted with 1, 2, or 3 groups independently selected from  $-C(=O)-(C_1-C_6 \text{ alkyl})-NR_{235}-C(=O)-O-R_{205}$ ,  $-C(=O)-(C_1-C_4 \text{ alkyl})-OH$ , and  $-CO_2-(C_1-C_4 \text{ alkyl})$ ; and

$R_{245}$  and  $R_{250}$  at each occurrence are independently selected from -H, halogen,  $-CF_3$ , -OH,  $-NH_2$ ,  $-C_1-C_4$  alkyl,  $C_1-C_4$  alkoxy, and  $C_1-C_4$  haloalkoxy.

7. A compound according to claim 1 selected from the group consisting of:

*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]-4-methylpentanamide;

*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]-4-methylpentanamide;

*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]-4-methylpentanamide;

2-(acetylamino)-1,2,4,5-tetradeoxy-1-(3,5-difluorophenyl)-5-[(4-methylpentanoyl)amino]-L-threohexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(4-methylpentanoyl)amino]-L-threoheptitol;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]-4-phenylbutanamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]-4-phenylbutanamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]-4-phenylbutanamide;

2-(acetylamino)-1,2,4,5-tetradeoxy-1-(3,5-difluorophenyl)-5-[(4-phenylbutanoyl)amino]-L-threohexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(4-phenylbutanoyl)amino]-L-threoheptitol;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]-2-(benzyloxy)acetamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]-2-(benzyloxy)acetamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]-2-(benzyloxy)acetamide;

2-(acetylamino)-5-{[(benzyloxy)acetyl]amino}-1,2,4,5-tetradeoxy-1-(3,5-difluorophenyl)-L-threohexitol;

2-(acetylamino)-5-{[(benzyloxy)acetyl]amino}-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-L-threoheptitol;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]-3-cyclopentylpropanamide;

N-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]-3-cyclopentylpropanamide;

*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]-3-cyclopentylpropanamide;

2-(acetylamino)-5-[(3-cyclopentylpropanoyl)amino]-1,2,4,5-tetradecoxy-1-(3,5-difluorophenyl)-*L*-threo-hexitol;

2-(acetylamino)-5-[(3-cyclopentylpropanoyl)amino]-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-*L*-threo-heptitol;

*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]-2-ethoxyacetamide;

*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]-2-ethoxyacetamide;

*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]-2-ethoxyacetamide;

2-(acetylamino)-1,2,4,5-tetradecoxy-1-(3,5-difluorophenyl)-5-[(ethoxyacetyl)amino]-*L*-threo-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(ethoxyacetyl)amino]-*L*-threo-heptitol;

*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]-2-propoxyacetamide;

*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]-2-propoxyacetamide;

*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]-2-propoxyacetamide;

2-(acetylamino)-1,2,4,5-tetradecoxy-1-(3,5-difluorophenyl)-5-[(propoxyacetyl)amino]-*L*-threo-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(propoxyacetyl)amino]-*L*-threo-heptitol;

(3*E*)-*N*-[(3*S*,4*S*)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]hex-3-enamide;

(3E)-N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]hex-3-enamide

(3E)-N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]hex-3-enamide;

2-(acetylamino)-1,2,4,5-tetradecoxy-1-(3,5-difluorophenyl)-5-[(3E)-hex-3-enoylamino]-L-threo-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(3E)-hex-3-enoylamino]-L-threo-heptitol;

(3E)-N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]pent-3-enamide;

(3E)-N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]pent-3-enamide;

(3E)-N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]pent-3-enamide;

2-(acetylamino)-1,2,4,5-tetradecoxy-1-(3,5-difluorophenyl)-5-[(3E)-pent-3-enoylamino]-L-threo-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(3E)-pent-3-enoylamino]-L-threo-heptitol;

(2E)-N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]hex-2-enamide;

(2E)-N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]hex-2-enamide;

(2E)-N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]hex-2-enamide;

2-(acetylamino)-1,2,4,5-tetradecoxy-1-(3,5-difluorophenyl)-5-[(2E)-hex-2-enoylamino]-L-threo-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(2E)-hex-2-enoylamino]-L-threo-heptitol;

(2E)-N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]pent-2-enamide;

(2E)-N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]pent-2-enamide;

(2E)-N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]pent-2-enamide;

2-(acetylamino)-1,2,4,5-tetradecoxy-1-(3,5-difluorophenyl)-5-[(2E)-pent-2-enoylamino]-L-threo-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-[(2E)-pent-2-enoylamino]-L-threo-heptitol;

N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]pentanamide;

N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]pentanamide;

N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]pentanamide;

2-(acetylamino)-1,2,4,5-tetradecoxy-1-(3,5-difluorophenyl)-5-(pentanoylamino)-L-threo-hexitol;

2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-(pentanoylamino)-L-threo-heptitol;

N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-methylpentyl]hexanamide;

N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-1-ethyl-3-hydroxypentyl]hexanamide;

N-[(3S,4S)-4-(acetylamino)-5-(3,5-difluorophenyl)-3-hydroxy-1-propylpentyl]hexanamide;

2-(acetylamino)-1,2,4,5-tetradecoxy-1-(3,5-difluorophenyl)-5-(hexanoylamino)-L-threo-hexitol; and  
2-(acetylamino)-1,2,4,5,6-pentadeoxy-1-(3,5-difluorophenyl)-5-(hexanoylamino)-L-threo-heptitol.

8. A pharmaceutical composition comprising a compound according to claim 1 and a pharmaceutically acceptable carrier.

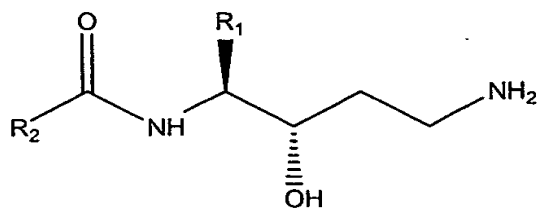
9. A method for the treatment or prevention of Alzheimer's disease, mild cognitive impairment Down's syndrome, Hereditary Cerebral Hemorrhage with Amyloidosis of the Dutch-Type, cerebral amyloid angiopathy, other degenerative dementias, dementias of mixed vascular and degenerative origin, dementia associated with Parkinson's disease, dementia associated with progressive supranuclear palsy, dementia associated with cortical basal degeneration, diffuse Lewy body type of Alzheimer's disease comprising administration of a therapeutically effective amount of a compound or salt according to Claim 1, to a patient in need thereof.

10. A method of treatment as in claim 9, wherein the patient is a human.

11. A method of treatment according to claim 9, wherein the disease is dementia.

12. A method for making a compound of claim 1.

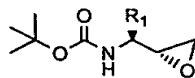
13. An intermediate of the formula 23:



23

wherein  $R_1$  and  $R_2$  are as defined in claim 1.

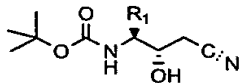
14. An intermediate of formula 19:



19

wherein  $R_1$  is as defined in claim 1.

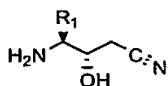
15. An intermediate of formula 20:



20

wherein  $R_1$  is as defined in claim 1.

16. An intermediate of formula 21:



21

wherein  $R_1$  is as defined in claim 1.

17. The use of a compound or salt according to claim 1 for the manufacture of a medicament.

18. The use of a compound or salt according to claim 1 for the manufacture of a medicament for use in the treatment or prevention of Alzheimer's disease, mild cognitive impairment Down's syndrome, Hereditary Cerebral Hemorrhage with Amyloidosis of the Dutch-Type, cerebral amyloid angiopathy, other degenerative dementias, dementias of mixed vascular and

degenerative origin, dementia associated with Parkinson's disease, dementia associated with progressive supranuclear palsy, dementia associated with cortical basal degeneration, or diffuse Lewy body type of Alzheimer's disease.

5